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INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

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SUBJECT	Gold Mine and Ore Concentration Plants in Belovo	DATE DISTR.	18 March 1955	
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SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

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Gold Mining in Belovo

1. Mechanization of the Belovo gold mine (N 61-18. E 148-51) included a new mine elevator (klet) and two mine railways. 25X1

One mine railway was to be a motorvov (sic), driven by an oil-burning locomotive; the other was to be an elektrovov with a trolley above the rail. 25X1

work was 25X1
only being done on the railroad beds which were intended to connect the various tunnels of the mine. There were four mines in the area; they were about two kilometers from the plant (see Belovo area sketch).¹
2. There were two ore concentration plants in Belovo, the Belovo Concentration Plant No. 1 (obogatotel'naya fabrika imeni Belova), and an older plant which was called Belovo Concentration Plant No. 2 (sic).
3. The norm for the old plant was 60 tons of ore per 12-hour shift. The norm for the new plant was 90 tons per shift. 25X1

The new plant had three ball mills, 25X1
two larger ones and a smaller one (see page 3). The norm for each was about four tons of ore per hour, and the daily norm, for 12 hours, was 45 tons. Usually, about 30 to 40 tons were processed per shift, although the norm was frequently reached.
4. A total of three to four kilograms of gold concentrate, mixed with some mercury (rtut), was obtained per 12-hour shift from the mills in Plant No. 1. (For the details of the operation, see pages 3 to 4.)
5. About 50 men per shift worked in the two gold concentration plants. In addition, there were about 30 people in the laboratory, about 15 mechanics, carpenters, and others.

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(Note: Washington distribution indicated by "X"; Field distribution by "#".)

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Legend to Flow Chart of Belovo Gold Concentration Plant No. 1
(see attachment)

1. Hopper into which ore from Mines Nos. 1, 3, and 4 is dumped from trucks. An aperture at the bottom takes the ore onto another conveyer (lenta) from where it is dropped into a Black grinding unit (3).
2. Conveyer belt.
3. Black grinding unit, made up of two crushing wheels.
4. Conveyer belt.
5. A chute (lyuk) drops the ore on a shaking screen (6).
6. Shaking screen (grokhot).
7. From the screen the ore goes into a Siemens crusher, where it is reduced to 10mm. The material that falls through the screen also goes on to the elevator conveyer (9).
8. Chute device (lyuk) which takes ore onto an elevator conveyer.
9. Elevator conveyer with small buckets.
10. Device built like a mine drawer (lyuk), which drops ore onto a conveyer.
11. The conveyer distributes the ore onto three hoppers.
12. Hoppers, each of 15-ton capacity. As the ore goes over the conveyer into the mills, water from a vat situated above the mills is added.
13. Water vat.
- 13a and 13b.. Two vats with a capacity of 30 tons of water each.
- 13c. Water filtration unit (isgustitelnoye otdeleniye/sic: possibly isgotovleniye - preparation). It can hold 100 tons of water. The water which has become dirty in the mills is cleaned in this unit and used again. It is fed into the vats (13a and 13b).
- 14a, 14b, and 14c. Three steel ball mills; capacity: about four tons of ore per hour.
15. Three sedimentation tanks.
16. See Inset A. Under each mill, there is a unit as pictured in inset A. The unit consists of three superimposed boxes. In the first box (16a), a small mechanism drives the small pieces of ore into the lower box (16b). The larger pieces are sent into the mills (14a, b, and c). The middle box (16b) is divided into sections which are lined with copper or a woollen material. The lowest box (16c) is all lined with wool. The concentrate is allowed to stand in these units for about 12 hours. Some gold concentrate is gathered from this unit.
17. Shaking tables. The water and ore mixture runs off into the sump (18), while the gold concentrate is picked up in pails and taken to amalgamation unit (Inset B).
18. Sump (sumf). The concentrate goes through this sump and is pumped back into the mills for a second run.

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19. Pump.

Inset B. Amalgamation Unit.

20. Revolving cylinder which takes up to 450 kilograms of concentrate, 200-300 steel balls, and water.
21. Opening through which the concentrate is poured. It is closed and the cylinder is rotated for about one hour. After that, 4.5 - 7 kilograms of mercury are added.
22. Opening through which the mercury is added. The cylinder is again rotated for about one hour.
23. Funnel device, into which the concentrate falls from the cylinder when it is opened. The excess water is returned to sump (18), from where it goes again through the mills.
24. Cock to let out a small quantity of concentrate.
25. Pail in which the concentrate is collected.
26. Amalgamation room. From the pail, the concentrate is poured into canvas bags. They are twisted by hand to squeeze out the water. The gold is taken to the laboratory, where the mercury is distilled off. Each bag contains about 4,000 gr of pure gold. The mercury is gathered in a pail and used again.

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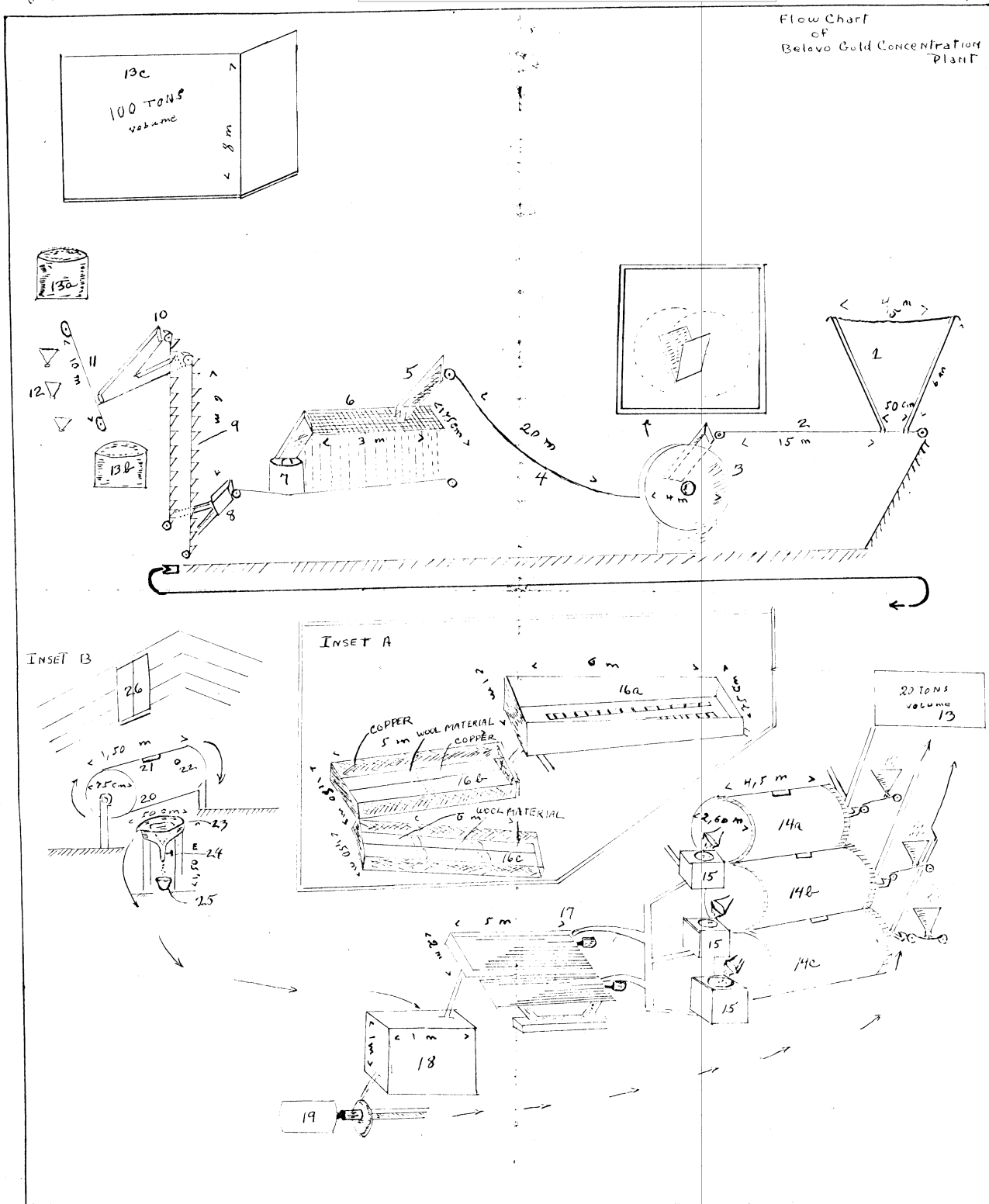
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